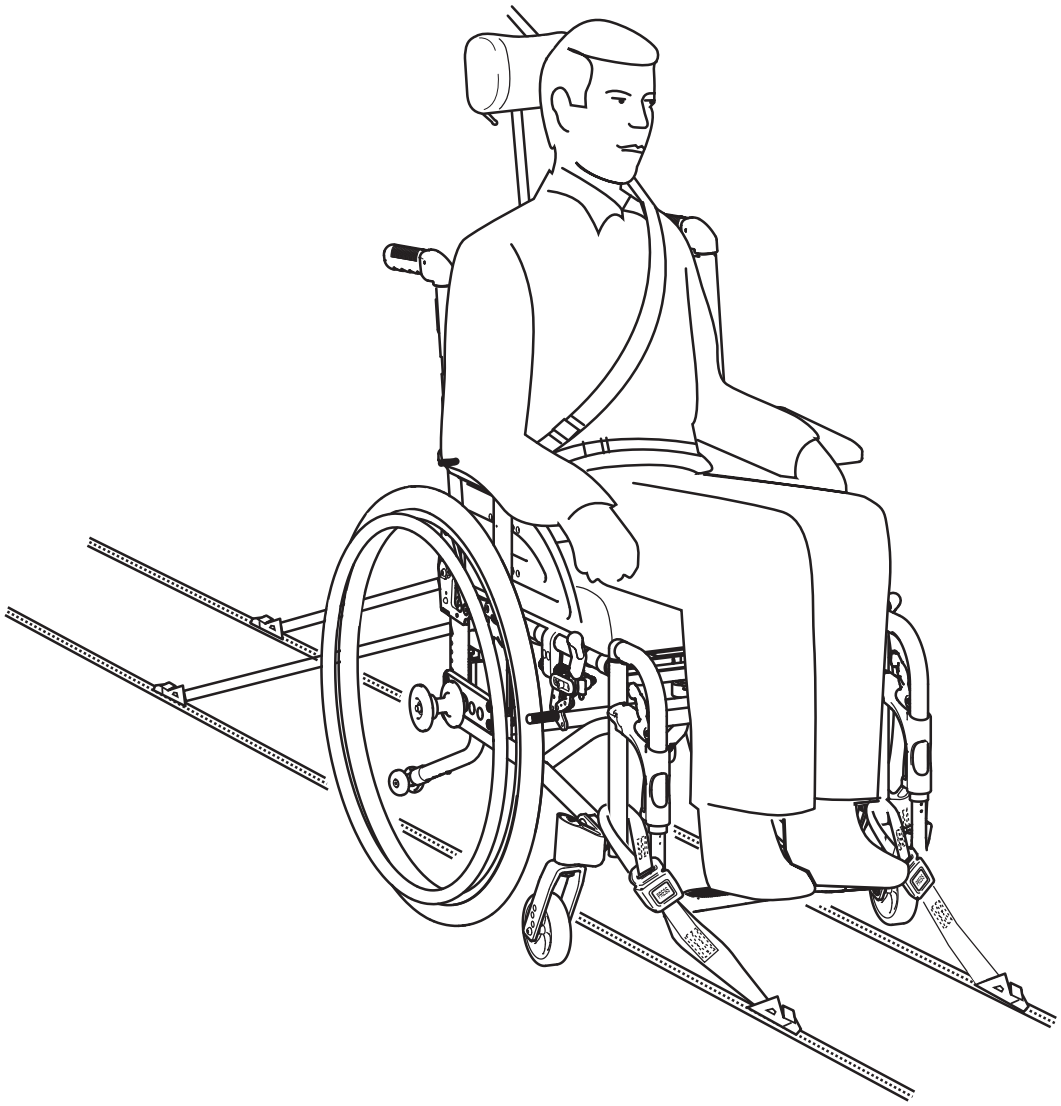
INVACARE®

Yes, you can.®

Transport of wheelchairs and users in vehicles

Pre-sale information

English



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Introduction

Invacare has continuously worked to improve the safety in all our products for the users in different everyday situations. This has, among other things, meant that Invacare since the mid 1990's has let accredited research institutes crash test several of the manual wheelchair models.

With this document we would like to inform you about the transport of wheelchairs with seated users in vehicles that are especially adapted for this purpose.

First and foremost, we would like to point out that it is always the safest option for the user to be transported in the vehicle's regular seat fastened with the regular safety belt. Invacare cannot recommend transport seated in the wheelchair.

But, we are aware that there are users and situations that require vehicle transport seated in the wheelchair. In these cases, the safety rules in this brochure must be followed in order to reduce the risk of injury in the case of an accident.

The wheelchairs shown in this brochure have been tested according to the specifications in ISO 7176-19 "Wheeled mobility devices for use as seats in motor vehicles".
This means that they have been through and met the requirements in a standard test of one possible situation – full frontal collision in 48 km/h with a deceleration of 20 g and a 75 kg test dummy.

The test standard ISO 7176-19 is developed by authorities and specialists and it states a minimum demand on wheelchairs regarding transport in vehicles. This standard is updated regularly as knowledge and experience increases.

In reality, an incident will be different from the circumstances in a test laboratory environment. For example will speed, impact angle, configuration of the chair, user weight and deceleration probably vary. **Invacare declines any responsibility for the outcome of a possible accident where our products are involved.**

We have chosen to test what we believe to be a frequently occurring configuration with common adjustments made. The tested configuration can be found in the test protocols later on in this brochure. Configurations and accessories that are unsuitable for seated transport in a vehicle are mentioned under the general safety rules or in relation to each wheelchair model.

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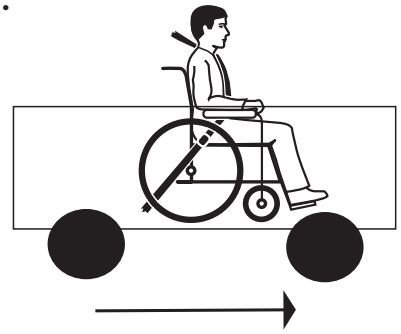
General Safety Rules

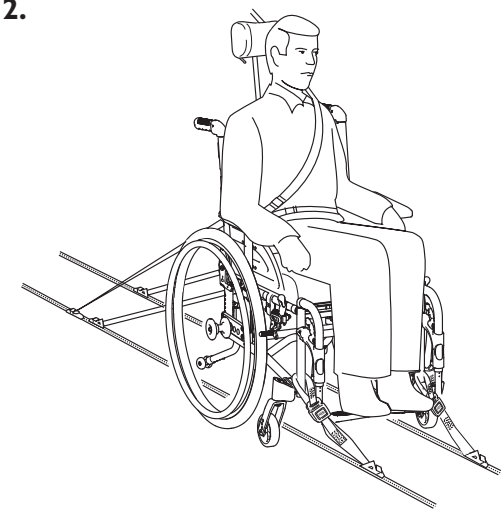
These rules must be followed in those cases where the user is transported while seated in his/her wheelchair. More detailed information might be available in the user manual for the specific wheelchair model.

1.



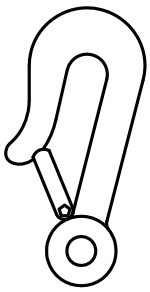
1. The wheelchair and user should be transported forward-facing in the direction of travel. All auxiliary equipment such as tables, trunk support, abduction cushion, drip stand, harness etc should be removed and stored safely so that they do not injure anyone during any kind of incident.

2.



2. The wheelchair should be secured in the vehicle with a 4-point restraint system. The user should wear a wheelchair-anchored pelvic belt and a 3-point safety belt secured in the vehicle. Both the 4-point restraint system and the 3-point safety belt should be approved according to ISO-10542-2.
In wheelchairs for passive users, the seat of the wheelchair should be positioned horisontally and the back should be as vertical as possible.

3.



3. The tie-down points on the wheelchair where the restraint system straps should be placed are marked with this symbol.

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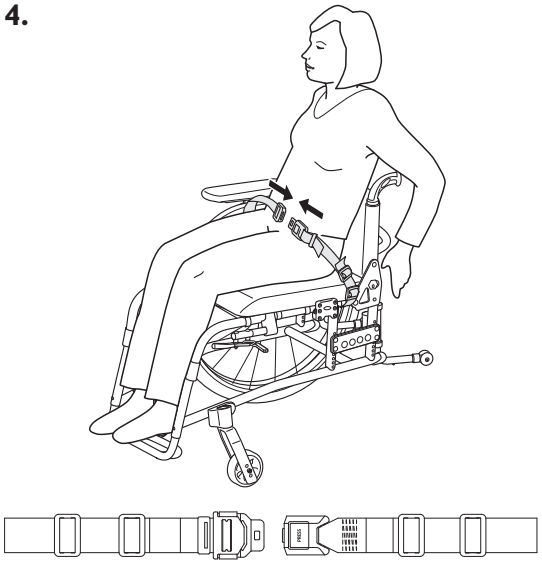
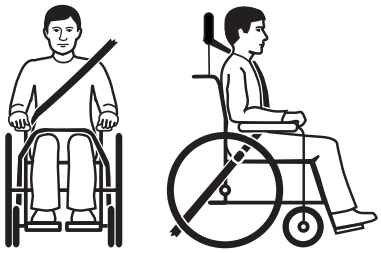
4.



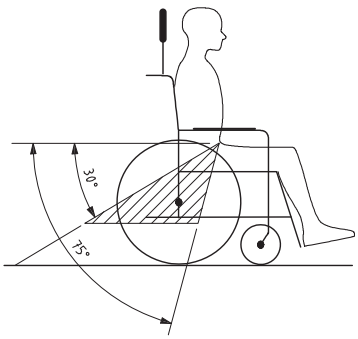
4. In order to be used as a seat during transport in a vehicle, the wheelchair must be equipped with a pelvic belt. The pelvic belt should be used during transport in addition to the safety restraints installed in the vehicle, see point 2.

5.



5. The vehicle's safety belt should fit as tightly across the user's body as possible without discomfort. The upper part of the safety belt should fit over the user's shoulder as illustrated. No part of the safety belt must be twisted.

6.



6. The pelvic part of the 3-point safety belt must be worn low across the pelvis so that the angle of the pelvic belt is within the preferred zone (A) of 30° to 75° to the horizontal. A steeper angle is preferred, but never exceeding 75°.

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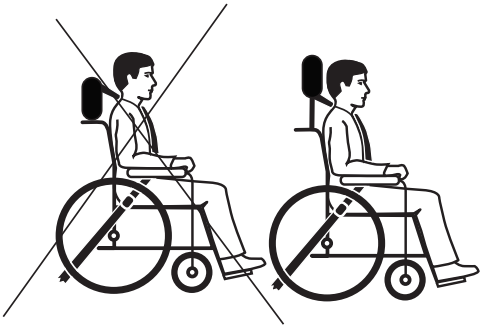
7.

7. The 3-point safety belt must not be held away from the user's body by parts of the wheelchair such as armrests or wheels etc.

8.



8. When a wheelchair is equipped with a neckrest or a headrest it should be adjusted in a high position as shown in the picture during vehicle transport. Please note that for some models it is obligatory to have a headrest fitted on the wheelchair if it is going to be used as a seat during transport in a vehicle.

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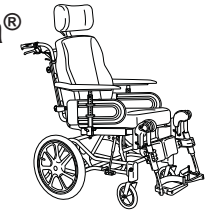
How to transport your specific wheelchair

These products manufactured by Invacare Rea have been tested in accordance with and met the requirements in ISO 7176-19 Please note that not all configurations of these models are appropriate for transport. In the following pages you will learn how to attach each model properly when transported. You will also find information on how to fold your wheelchair when transporting it as luggage. More detailed information on each model can be found in the user's manual.

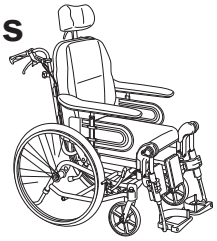
Rea™ Azalea®



Invacare® Blade+

Rea™ Bellis™

Rea™ Clematis



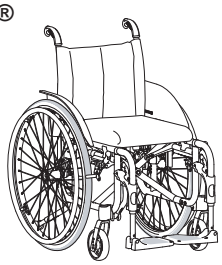
Rea™ Focus™

Rea™ Spirea²®

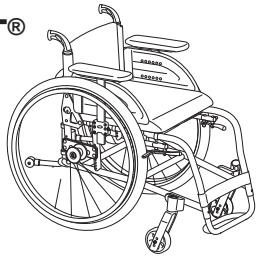
Rea™ Spirea³®

Rea™ Spirea⁴ NG®

Invacare® SpinX®



Invacare® XLT®



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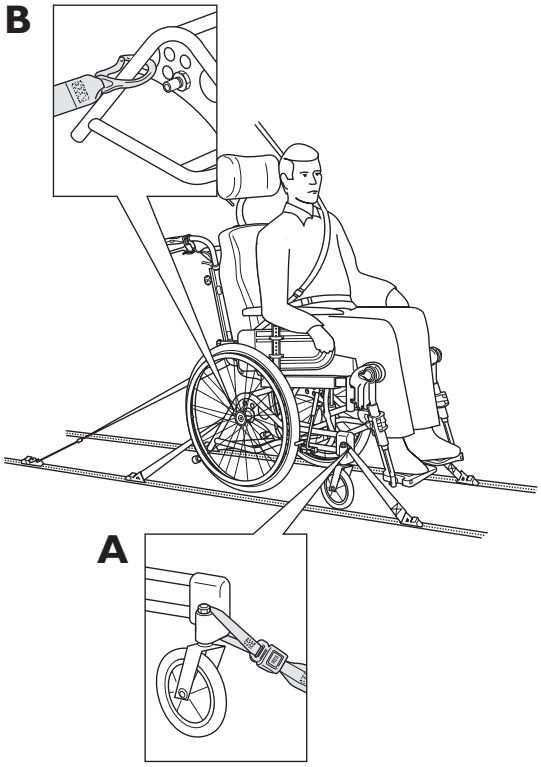
RESTRAINT METHODS



A. Frontal restraints with straps

1. Connect the frontal straps around the castor attachment. See pic A.
2. Release brakes and tension front straps by pulling the wheelchair backwards. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks on the rear straps to the vertical rear tube by the rear wheel attachment.
2. Tighten the straps.

C. Fastening of pelvic belt and safety belt

1. Check that the pelvic belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt around the user.

⚠ If the wheelchair is equipped with a harness, this cannot be used during transport in a vehicle.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test No Rea Azalea**:**	P600377B	Customer: Invacare Rea AB
Date:	10/02/2006	
Test No Rea Azalea Assist**:**	P600662A	Customer: Invacare Rea AB
Date:	23/02/2006	
Test No Rea Azalea Assist Tall**:**	P702421A	Customer: Invacare Rea AB
Date:	22/05/2007	
Test No Rea Azalea Tall**:**	P702421B	Customer: Invacare Rea AB
Date:	22/05/2007	
Test No Rea Azalea Minor**:**	P801009B	Customer: Invacare Rea AB
Date:	25/02/2008	
Pulse specification	ISO 7176-19 / ISO-10542	
Wheelchair	Manufacturer:	Invacare Rea AB
	Model:	Rea Azalea, Assist, Tall and Minor
	Configuration:	Forward facing
Safety restraint device manufacturer:	Unwin Safety Systems	
	Model:	WWR/ATF/K/R + WWR/HD/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
	Configuration:	4 Pt. Restraint
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	QIR/3H/ATF/WH
Testdummy:	Hybrid III	
	Weight:	76 kg
Test configuration	Chassis:	SW44 / SD44
	Weight:	34,5 kg
	Backrest:	Flex2 fixed with Mistral2 cushion
	Seat:	Bris
	Armrest:	Height adjustable
	Legrest:	AA Alu2003
	Rear wheel:	24" pneumatic / 16” pneumatic
	Castor:	200 x 30 mm
	Accessories:	Calfpads, heel straps head-/ neckrest.

The safety restraint devices used in this test must be approved according to ISO10542. Invacare’s business partner in this domain is Unwin Ltd UK, a quality manufacturer of safety restraint devices for wheelchairs.

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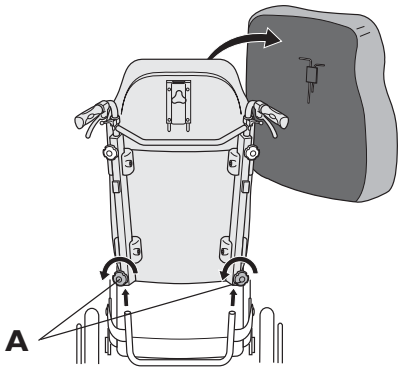
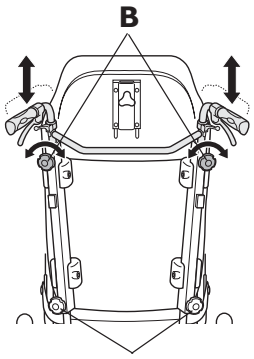
How to disassemble your Azalea to transport it as luggage

1.

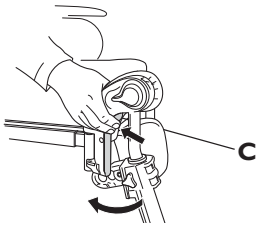


2.

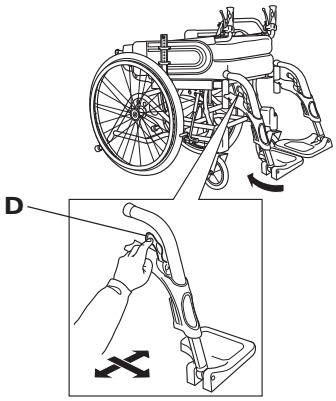


Do not touch these knobs!

3.



4.



The Rea™ Azalea is easy to prepare for transport.

1. **Backrest**
   Remove the backrest cushion by pulling it forwards, thus separating the Velcro straps.
   Loosen both knobs (A) and pull the backrest directly upwards. Lay the backrest on the seat, where it can remain during transport of the wheelchair. Where applicable, detach the push handles. Be careful with the cables that run from the rear wheel to the push handles.
   When detaching the backrest and placing it on the seat, try to make sure that the cables hang freely.

2. **Push handles braced.**
   Loosen the two knobs (B).

3. **Legrests**
   The legrests are loosened by pushing the lever (C) forwards whilst turning the legrests outwards. You can then simply lift off the legrests.

4. **Footrests**
   The footrests are loosened by pushing the handle (D) forwards or sidewards whilst turning the footrests outwards. You can then simply lift off the footrests.

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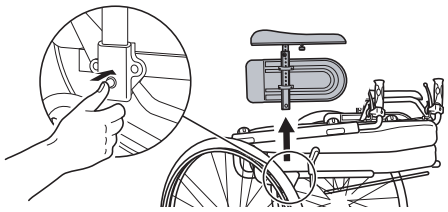
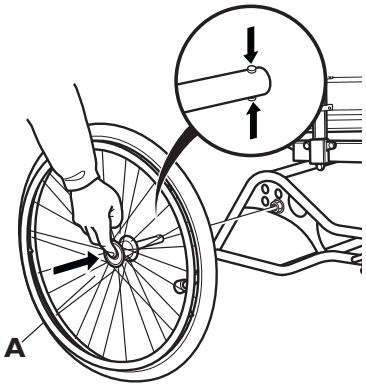
4.



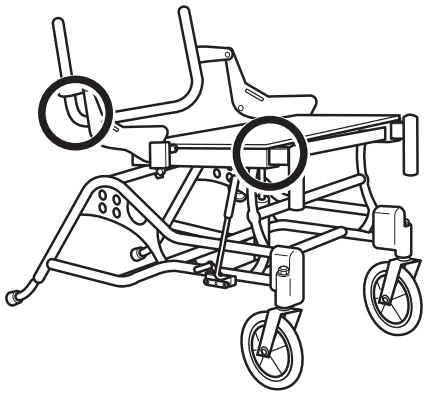
4. Armrests,
Pull them straight up.

5.



5. Rear wheels
Remove the rear wheels by pushing buttom (A) and pulling the wheel straight out.

6.



6. Lifting the wheelchair
Always lift the wheelchair by gripping the frame at the points shown in the diagram. Never lift the wheelchair by the removable armrests or the footrests.

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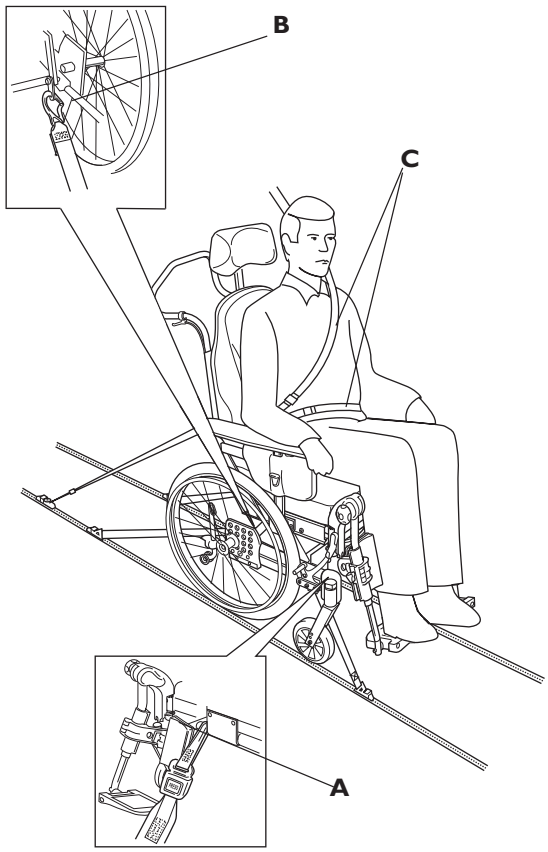
Rea™ Bellis™

RESTRAINT METHODS

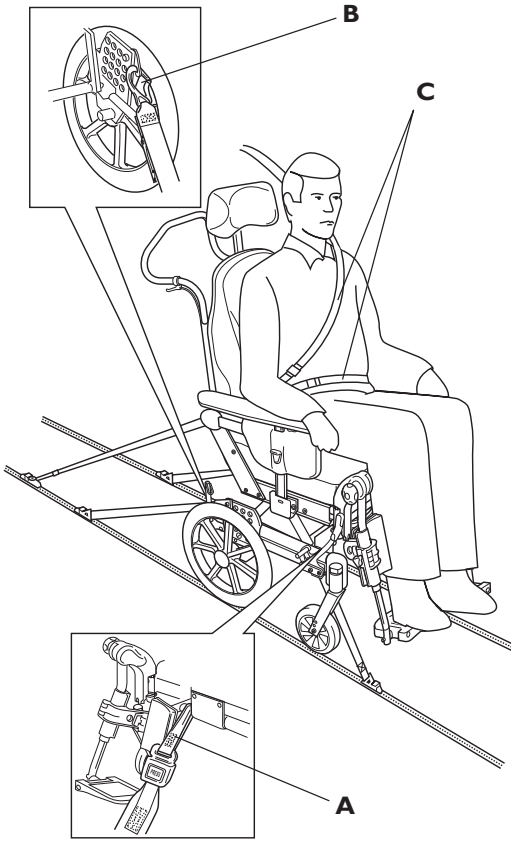


Rea™ Bellis

A. Frontal restraints with straps
1. Connect the frontal straps around the main frame of the wheelchair. If the straps have snap hooks, connect them to the transport attachements.
2. Release brakes and tension front straps by pulling the wheelchair backwards from the rear. Re-apply wheelchair brakes.

B. Rear restraints
1. Attach the snap hooks on the rear straps to the transport attachments on the rear frame.
3. Tighten the straps.

C. Fastening of pelvic belt and safety belt
1. Check that the pelvic belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt over the user.



Rea™ Bellis Transport

A. Frontal restraints with straps
1. Connect the frontal straps around the main frame of the wheelchair. If the straps have snap hooks, connect them to the transport attachements.
2. Release brakes and tension front straps by pulling the wheelchair backwards from the rear. Re-apply wheelchair brakes.

B. Rear restraints
1. Attach the snap hooks on the rear straps to the transport attachments on the rear wheel attachment.
3. Tighten the straps.

C. Fastening of pelvic belt and safety belt
1. Check that the pelvic belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt over the user.

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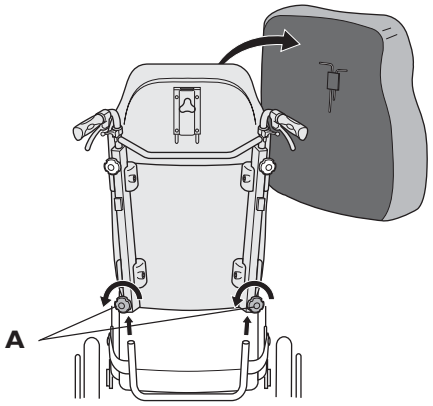
How to disassemble your Bellis™ to transport it as luggage

1.



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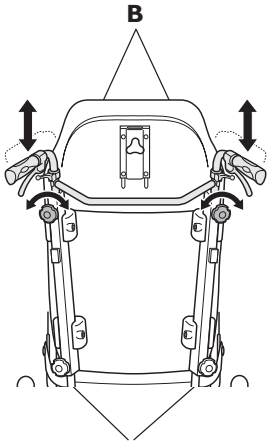

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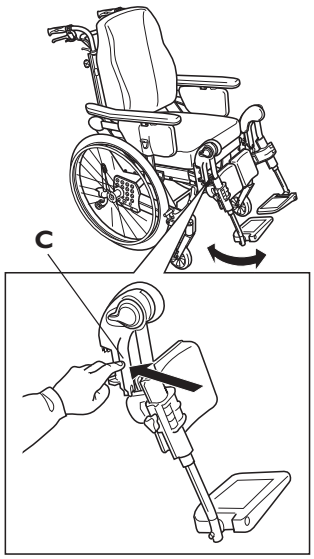

The Rea™ Bellis is easy to prepare for transport.

1. Backrest

Remove the back cushion by pulling it forwards, thus separating the Velcro strops.

Loosen both knobs (A) and pull the backrest directly upwards. Lay the backrest on the seat, where it can remain during transport of the wheelchair. Where applicable, detach the push handles. Be careful with the cables that run from the rear wheel to the push handles.

When detaching the backrest and placing it on the seat, try to make sure that the cables hang freely.

2. Push handles braced.

Loosen the two knobs (B). The height of the handles can be adjusted simply by pulling the handles upwards or pushing them downwards.

3. Legrests

The legrests are loosened by pushing the lever (C) forwards whilst turning the legrests outwards. You can then simply lift off the legrests.

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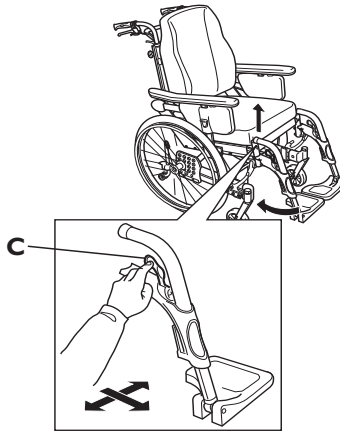
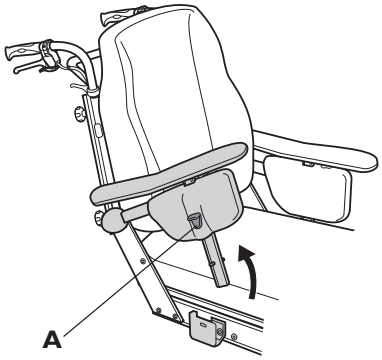
4.



4. Footrests

The footrests are loosened by pushing the handle (C) forwards or sidewards whilst turning the footrests outwards. You can then simply lift off the footrests.

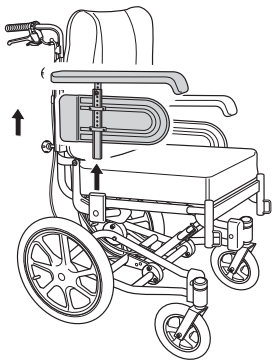
5a.



5a. Armrests, Flip-up

In order to loosen the armrests, you must first fold them upwards by pushing lever (A) upwards and moving the armrests straight upwards. It is then simple to remove them from the wheelchair.

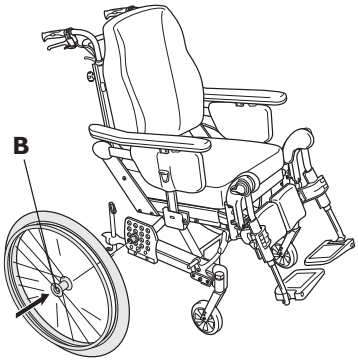
5b.



5b. Armrests, height adjustable and detachable

Pull them straight up.

6.



6. Rear wheels

Remove the rear wheels by pushing button (B) and pulling the wheel straight out.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test no	09KM	Customer: Invacare® Rea™ ® AB
Date	07/03/00	
Test no	P300998A	Customer: Invacare® Rea™ ® AB
Date	19/02/03	
Test no	F415424B	Customer: Invacare® Rea™ ® AB
Date	24/08/04	
Pulse specification	ISO/DIS 7176/19 (December 1999) (Rea™ ® Bellis™)	
	ISO/DiS 7176-19 and ISO 10542 (February 2003) (Rea™ ® Bellis™ Transport)	
	ISO/DiS 7176-19 and ISO 10542 (August 2004) (Rea™ ® Bellis™)	
Wheelchair	Manufacturer:	Invacare Rea™ AB
	Model:	Rea™ ® Bellis™ and Rea™ ® Bellis™ Transport
	Mass:	38,6 kg
	Configuration:	Forward facing
Wheelchair Safety restraint device	Manufacturer:	Unwin Safety Systems
	Model:	4 Pt. WWR/ATF/K/R
	Attachment:	Unwin LowProfile Rail
	Configuration	4 Pt. Restraint
User safety belt	Manufacturer:	Unwin Safety Systems
	Model:	Double Inertia, ATF, 3 Pt Assy with short third point for Inertia and Stalk
Test dummy	Hybrid II (LC)	Rea™ ® Bellis™
	Hybrid III	Rea™ ® Bellis™ Transport
	Mass:	76 kg
Test configuration	Chassie:	Medium
	Backrest:	Mistral, C11-Laguna, Fixed backrest, Mistral2
	Seat:	Mistral, Tromb
	Armrest:	Nice, Fixed,
	Legrest:	Fixed
	Rea™ r wheel:	24” pneumatic, 16” pneumatic
	Castor:	140x37, 200x45 M,
	Accessories:	Neckrest, Heel straps
	Tested:	200-03-07, 2003-07-01, 200-08-24

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Invacare® Blade+®

RESTRAINT METHODS

Frontal restraints with straps

1. Connect the frontal straps around the castor attachment. See pictures for exact placement.
2. Release brakes and tension front straps by pulling the wheelchair backwards. Re-apply wheelchair brakes.

Swing-away foot rests

Outrigged castors

Rear restraints

1. Attach the snap hooks on the rear straps to the vertical rear tube by the rear wheel attachment.
2. Tighten the straps.

For transit versions of the wheelchair the attachment points are the same.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test No	S7333	Customer: Invacare UK
Pulse specification	ISO 7176-19 Wheelchair dynamic hyge sled test	
Wheelchair	Manufacturer: Model: Configuration:	Invacare UK Invacare Blade Plus Forward facing
Safety restraint device:	Koller 4 point system	
User safety belt:	Koller 3 point system	
Testdummy:	Hybrid II 5th percentile	

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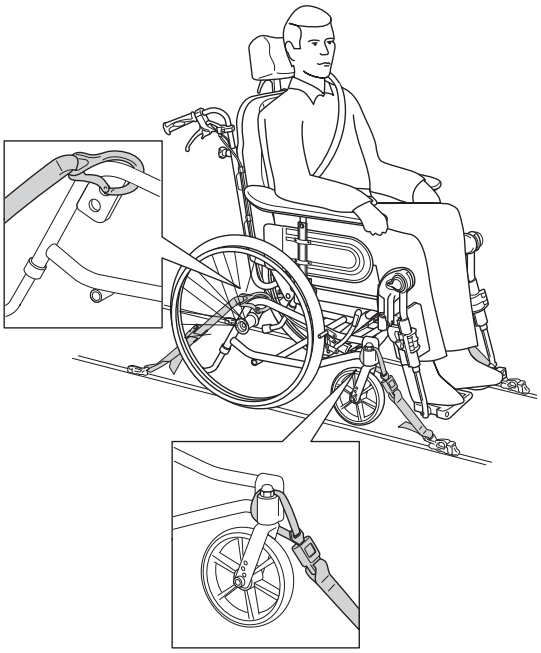
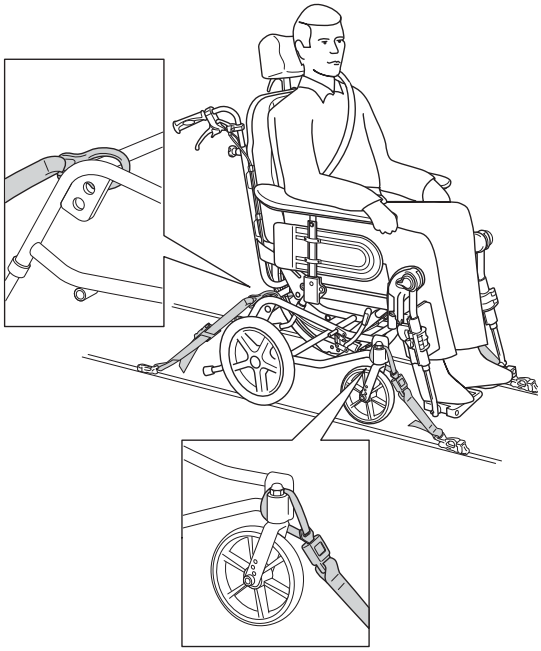
RESTRAINT METHODS





A. Frontal restraints with straps

1. Connect the frontal straps around the castor attachment. See pic A.
2. Release brakes and tension front straps by pulling the wheelchair backwards. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks on the rear straps to the vertical rear tube by the rear wheel attachment.
2. Tighten the straps.

C. Fastening of pelvic belt and safety belt

1. Check that the pelvic belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt around the user.

If there is no pelvic belt in on the wheelchair the user must transfer to the seat of the vehicle.

The safety belt should not be kept from the user's body by the parts of the wheelchair.

Never use the harness and pelvic belt in a vehicle as a safety belt. A belt designed for transport in vehicles must always be used.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST (ISO-7176-19)

Test No. P906579A
Customer: Invacare Rea AB
Date 2009-10-20

Pulse specification/CFC60
ISO-7176-19:2009 & ISO-10542

Wheelchair
Manufacturer: Invacare Rea AB
Model: Rea™ Clematis
Weight: 32 kg
Configuration: Forward facing

Safety restraint device and
user safety belt
Manufacturer: Unwin Safety Systems
Model: C120 and 3PTF
Attachment device: Unwin Low Profile Rail

Test dummy
Hybrid III
Weight: 79.1 kg

Test configuration
Chassis: Height 45 cm
Backrest: AA Laguna 2 with neckrest
Seat: AA with pelvic belt
Armrest: Height adjustable
Legrest: Alu 2008
Rear wheel: 24" pneumatic
Castor: 200 x 45 mm
Accessories: Heel strap, calf pad, anti-tip device

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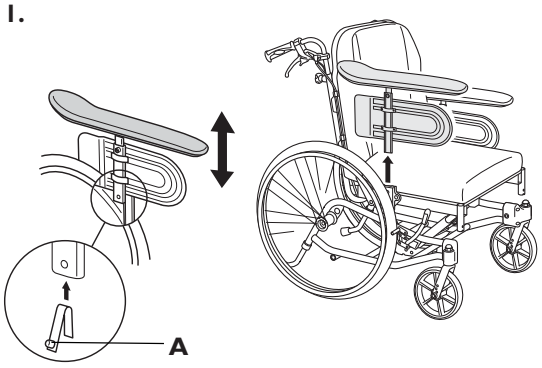
How to disassemble your Clematis to transport it as luggage

1.



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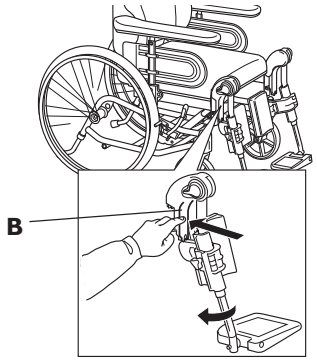

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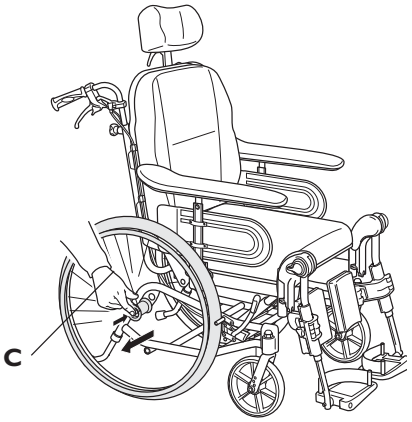

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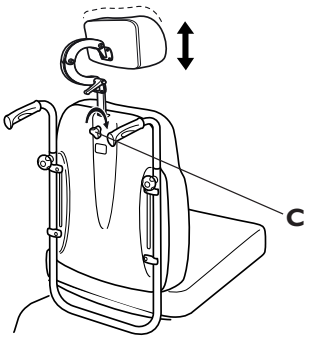

It is easy to prepare your Rea™ Clematis® for transport. Remove both the leg- and armrests. Fold the wheelchair and remove the wheels (if you have a chair with quick release wheels). You now have a chair that will easily fit into the luggage of a car.

Rea™ Clematis® is not intended to be transported with the user sitting in the chair.

1. Armrests

The armrest has an auto-lock. Press the spring button (A) before removing the armrest.

2. Legrests

The legrests are loosened by pushing the lever (B) forwards whilst turning the legrests outwards. You can then simply lift off the legrests.

3. Rearwheels

Remove the rear wheels by pushing button (C) and pulling the wheel straight out.

4. Neckrest

Remove the neckrest by loosening the knob (C) and lift it straight up.

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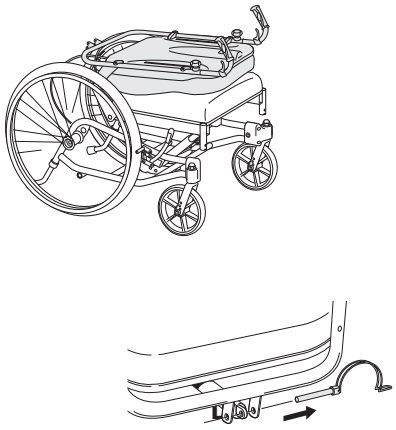
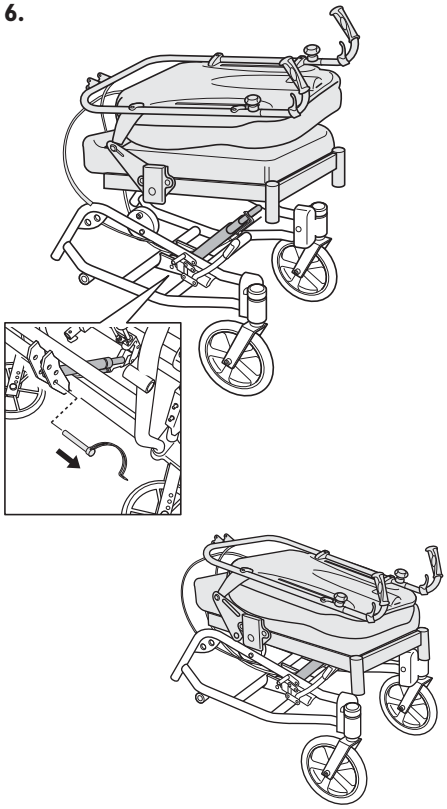
5.



5. Backrest

Fold the backrest forwards by removing pin (D).

6.



6. If you want to reduce the height of the chair even more, remove the pin (G) from the lower attachment of the lower gas piston.

Be careful not to trap your fingers between seat and frame.

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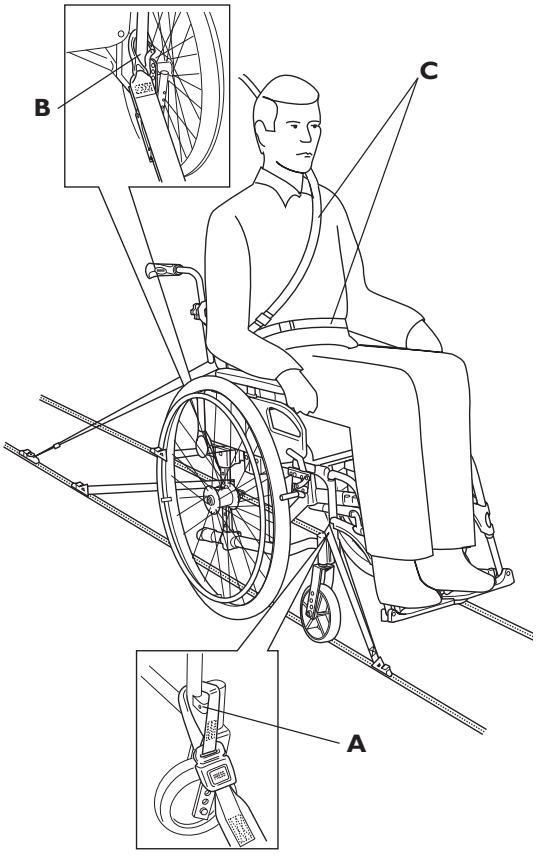
Rea™ Focus™

RESTRAINT METHODS



Rea™ Focus

A. Frontal restraints with straps

1. Connect the frontal straps around the frontal part of the frame.
2. Release brakes and tension front straps by pulling the wheelchair backwards from the rear.
3. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks on the rear straps to the frame just above the rear wheel attachments.
2. Tighten the straps.

C. Fastening of pelvic belt and safety belt

1. Check that the pelvic belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt over the user.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST (ISO-7176-19)

Test no	P303194B	Customer: Invacare Rea AB
Date	2003-09-19	
	Testing to be carried out	
Pulse specification	ISO-7176-19	
Wheelchair	Manufacturer:	Invacare Rea AB
	Model:	Rea™ Focus
	Weight:	18.5 kg
	Configuration:	Forward facing
Safety restraint device	Manufacturer:	Unwin Safety Systems
	Model:	4 Pt WWR/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	3 Pt WWR/HD/ATF/K/R
Test dummy	Hybrid III	
	Weight:	76.5 kg
Test configuration	Chassie:	Height 43 cm
	Backrest:	Fixed
	Seat:	With seat extender
	Armrest:	Height adjustable
	Legrest:	Fixed
	Rear wheel:	24" pneumatic
	Castor:	150 x 27 mm
	Accessories:	Heel strap
	Tested:	2003-09-19

The safety restraint devices used in this test must be approved according to ISO10542. Invacare's business partner in this domain is Unwin Ltd UK, a quality manufacturer of safety restraint devices for wheelchairs.

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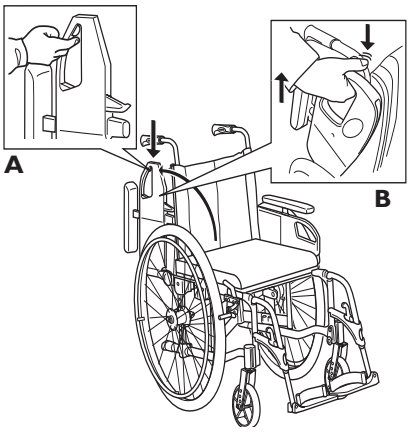
How to disassemble your Focus™ to transport it as luggage

1.



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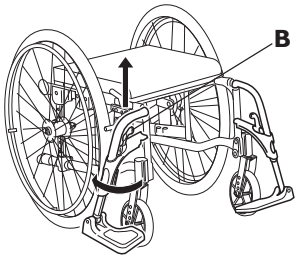

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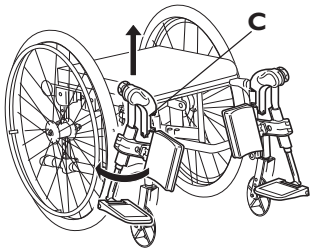

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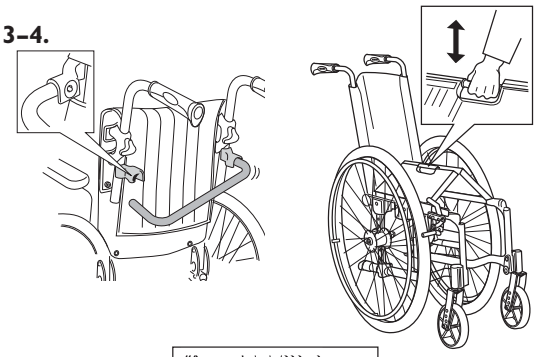

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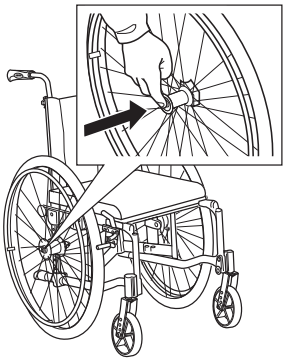

1. Start by removing the armrests.

Flip up armrests
Press the button (A), swing up the armrest. Lift it straight up (you may need to hold it slightly forward then lift it straight up) (B).

Detachable armrests
When having detachable one´s, just lift them up.

2. Footrests and legrests

2a. Remove the footrests by pressing the level (B), whilst turning the footrests outwards or inwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and footrest.

2b. Remove the legrests by pressing the level (C) forwards, whilst turning the legrests outwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and legrest.

The Brake lever
Please note the brake lever handle will have a certain amount of free play. Without activating the brake, the lever will fold up automatically when the legrest has been moved to its outward position. To activate the brake just push the lever forwards.

3. Backrest bar
Press the indicated small knob and fold down the backrest bar.

4. Fold the seat by always pulling the handle in the middle of the seat right up.

⚠ Be careful not to trap your fingers between the seat-halves!

5. Remove the rear wheels by pressing the button in the centre of the hub whilst pulling the wheel away from the wheelchair. Finally, fold the anti-tip devices upwards.

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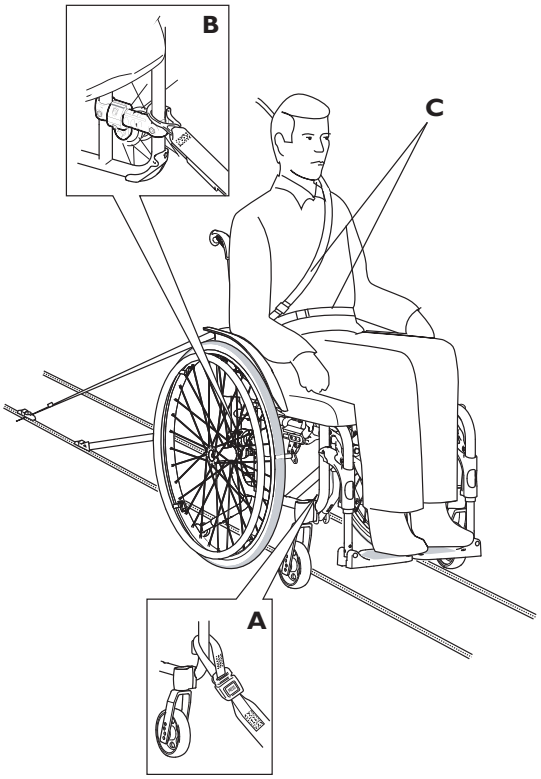
Invacare® SpinX™

RESTRAINT METHODS



A. Front restraints with straps

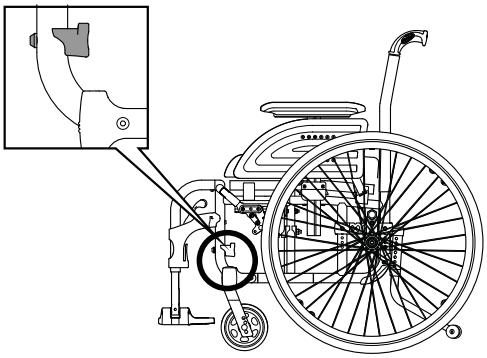
1. Connect the front straps around the front tube of the frame, just above the lower polyamid block, see picture A.
2. Release brakes and tension front straps by pulling the wheelchair backwards. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks of the rear straps around the rear tube of the frame, just above the rear wheel attachment, see picture B.
2. Tighten the straps.

C. Pelvic belt and 3-point safety belt

1. Check that the pelvic belt is correctly attached to the wheelchair, adjust the length and fasten it around the user.
2. Fasten the 3-point safety belt around the user..



In order to use your SpinX as a seat during transport it must be equipped with a transport kit. This transport kit must be included when your chair is ordered from the factory and it consists of two blocks mounted on the frame and four stickers indicating the tie-down points for the restraints.

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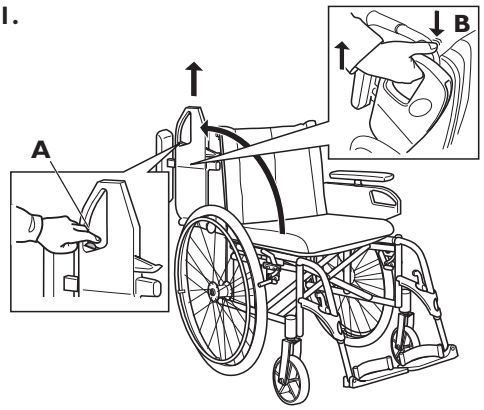
How to disassemble your SpinX to transport it as luggage

1.



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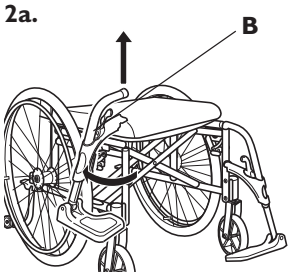

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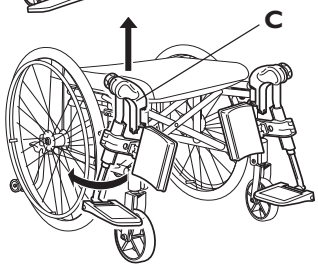
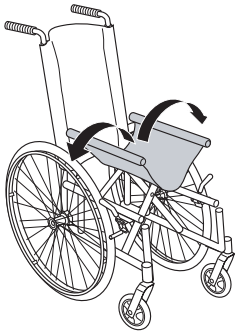


3.

Alt. 1



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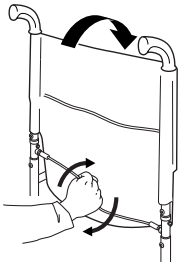

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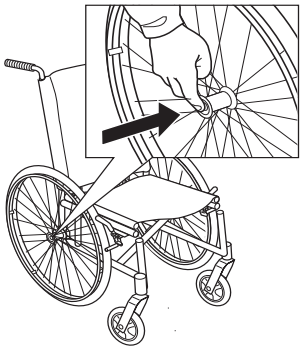

When you are transporting the Invacare® Spin× you can easily remove certain parts to make the chair smaller and lighter.

1. Start by removing the armrests.

Flip up armrests

Press the button (A), swing up the armrest.

Lift it straight up. You may need to hold it slightly forward then lift it straight up (B).

Detachable armrests

When you have detachable armrests, just lift them up.

Leg rests

2a. Remove the fixed legrests by pressing the level (B), whilst turning the footrests outwards or inwards and pull them straight up.

2b. Remove the adjustable legrests by pressing the level (C) backwards, whilst turning the legrests outwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and legrest.

3. Folding the chair

Alternative 1:

If you have a backrest bar first detach the left hand side of the backrest stay by depressing the catch on the inside of the left hand bracket and then rotate the stay downwards. Fold the chair by pulling the seat upwards.

Alternative 2:

After removing the wheels, flip down the backrest by grabbing the wire at the lower back of the backrest and twisting it to release the backrest locking.

⚠ Please be careful when folding the backrest forward onto the seat as there is a risk of finger entrapment.

4. Remove the rearwheels by pressing the button in the centre of the hub whilst pulling the wheel away from the wheelchair.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test no:	P602670C	Customer: Invacare Rea AB
Date:	21/06/2006	
Pulse specification:	ISO 7176-19 / ISO-10542	
Wheelchair:	Manufacturer:	Invacare Rea AB
	Model:	Invacare® Spin^{x}
	Configuration:	Forward facing
Safety restraint device:	Manufacturer:	Unwin Safety Systems
	Model:	WWR/ATF/K/R + WWR/HD/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
	Configuration:	4 Pt. Restraint
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	QIR/3H/ATF/WH
Testdummy:	Hybrid III	
	Weight:	76 kg
Test configuration:	Chassis:	SW43 / SD45
	Weight:	20,2 kg
	Backrest:	Tension adjustable, foldable
	Seat:	Standard 5 cm
	Armrest:	Height adjustable
	Legrest:	Fixed 80° Alu2003
	Rear wheel:	24" pneumatic
	Castor:	140 x 37 mm
	Accessories:	Backrest stay, heel straps, pelvic belt

The safety restraint devices used in this test must be approved according to ISO10542. Invacare's business partner in this domain is Unwin Ltd UK, a quality manufacturer of safety restraint devices for wheelchairs.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test no:	P604734A	Customer: Invacare Rea AB
Date:	23/11/2006	
Pulse specification:	ISO 7176-19 / ISO-10542	
Wheelchair:	Manufacturer:	Invacare Rea AB
	Model:	Invacare® Spin^{X} with passive rearwheel fixation
	Configuration:	Forward facing
Safety restraint device:	Manufacturer:	Unwin Safety Systems
	Model:	WWR/ATF/K/R + WWR/HD/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
	Configuration:	4 Pt. Restraint
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	QIR/3H/ATF/WH
Testdummy:	Hybrid III	
	Weight:	76 kg
Test configuration:	Chassis:	SW45.5/SD45
	Weight:	20,0 kg
	Backrest:	Tension adjustable, foldable
	Seat:	Standard 5 cm
	Armrest:	Height adjustable
	Legrest:	Fixed 80° Alu2003
	Rear wheel:	24" pneumatic
	Castor:	140 x 37 mm
	Accessories:	Backrest stay, heel straps, pelvic belt

The safety restraint devices used in this test must be approved according to ISO10542. Invacare's business partner in this domain is Unwin Ltd UK, a quality manufacturer of safety restraint devices for wheelchairs.

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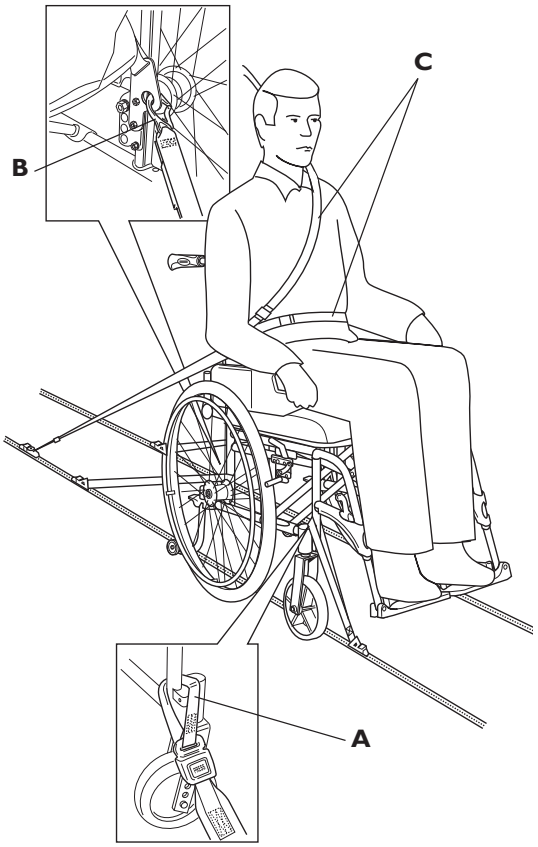
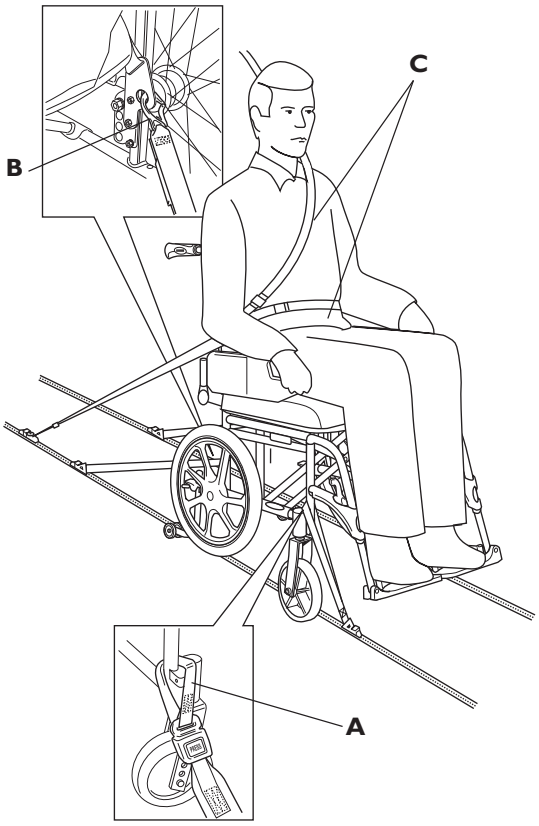
RESTRAINT METHODS





Rea™ Spirea2

A. Frontal restraints with straps

1. Connect the frontal straps around the frontal part of the frame.
2. Release brakes and tension front straps by pulling the wheelchair backwards from the rear.
3. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks in the holes on the belt attachments.
2. Tighten the straps.

C. Fastening of seat belt and safety belt

1. Check that the seat belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt over the user.

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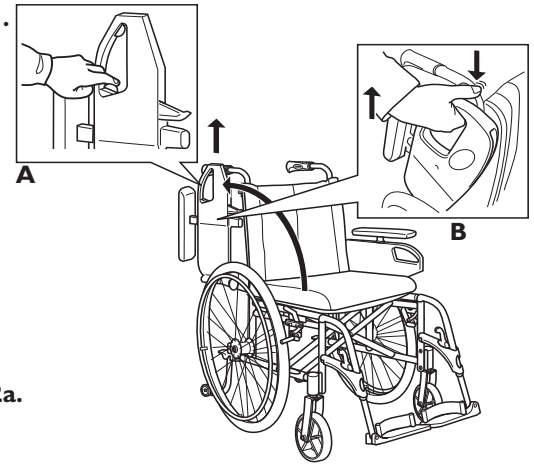
How to disassemble your Spirea^2 to transport it as luggage

1.



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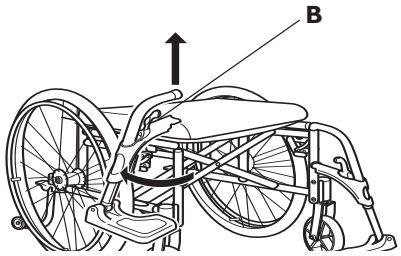

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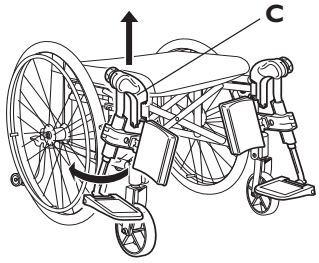

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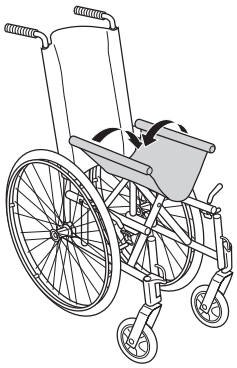

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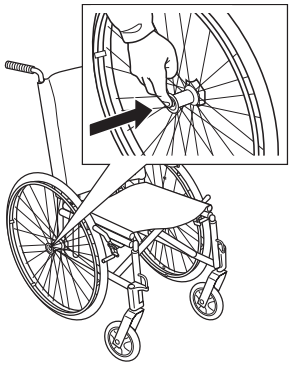

1. Start by removing the armrests.

Flip up armrests
Press the button (A), swing up the armrest. Lift it straight up (you may need to hold it slightly forward then lift it straight up) (B).

Detachable armrests
When having detachable one´s, just lift them up.

2a. Remove the footrests by pressing the level (B), whilst turning the footrests outwards or inwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and footrest.

2b. Remove the legrests by pressing the level (C) backwards, whilst turning the legrests outwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and legrest.

Concerning the brake
The lever of the brake where the handle is located, have a free play. The lever folds up automatically when the legrest have been swinged to its outward position without activating the brake. To activate the brake just press respectively pull at its most forward respectively rear located position.

3. Push the seat down into a ”U” shape. Take hold of the sides of the seat and fold the chair completely.

If you have a backrest bar release it first by pressing on the small nob on the inside of the tube. It will automaticlly fall down to the side.

4. Remove the rearwheels by pressing the buttom in the centre of the hub whilst pulling the wheel away from the wheel-chair. Finally, fold the anti-tip devices upwards (see page 23).

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST (ISO-7176-19)

Test no:	P303194A	Customer: Invacare Rea AB
Date:	2003-09-19	
Test no:	F403233	Customer: Invacare Rea AB
Date:	2004-02-16	
	Testing to be carried out	
Pulse specification	ISO-7176-19	
Wheelchair	Manufacturer:	Invacare Rea AB
	Model:	Rea® Spirea2, Rea® Spirea2 transport
	Weight:	16.4 kg
	Configuration:	Forward facing
Safety restraint device	Manufacturer:	Unwin Safety Systems
	Model:	4 Pt WWR/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	3 Pt WWR/HD/ATF/K/R
Test dummy	Hybrid III	
	Weight:	76.5 kg
Test Configuration	Chassie:	43/40 cm
	Backrest:	Fixed
	Seat:	Sling seat depth adjustable Velcro adjustable in depth and shape
	Armrests:	Detachable
	Legrests:	Fixed
	Rear wheels:	24" pneumatic, 16" pneumatic
	Castors:	150 x 27 mm
	Accessoires:	Heal straps
	Tested:	2003-09-19, 2004-02-16

The safety restraint devices used in this test must be approved according to ISO-10542. We have chosen to work with Unwin, a well-known quality manufacturer of safety restraint devices for wheelchairs.

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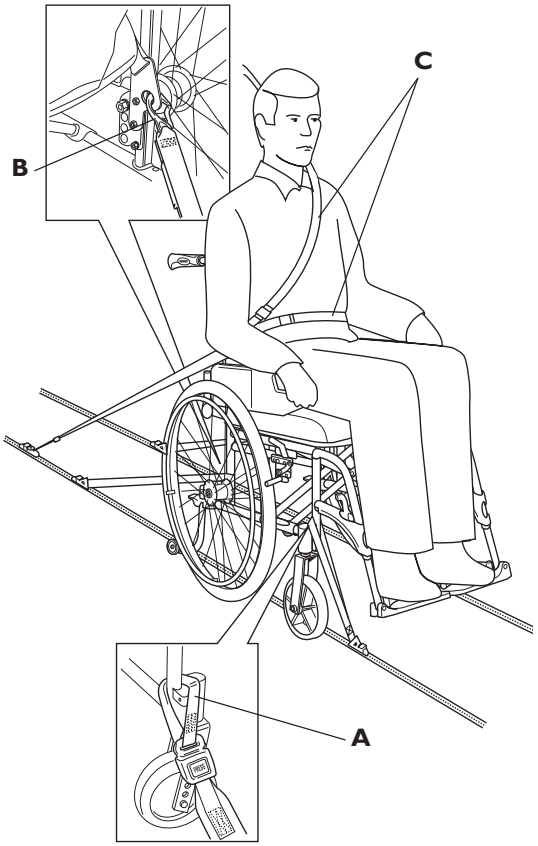

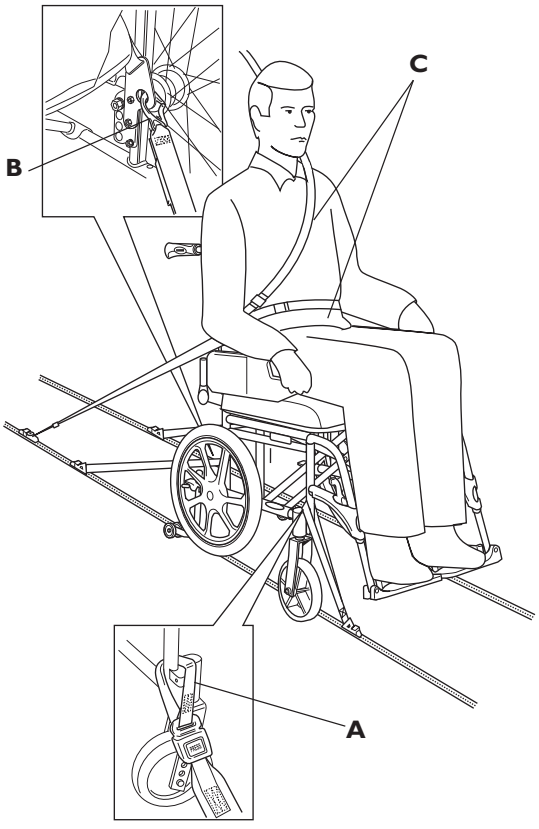

Rea™ Spirea3

A. Frontal restraints with straps

1. Connect the frontal straps around the frontal part of the frame.
2. Release brakes and tension front straps by pulling the wheelchair backwards from the rear.
3. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks in the holes on the belt attachments.
2. Tighten the straps.

C. Fastening of seat belt and safety belt

1. Check that the seat belt on the wheelchair is correctly fastened.
2. Fasten the 3-point safety belt over the user.

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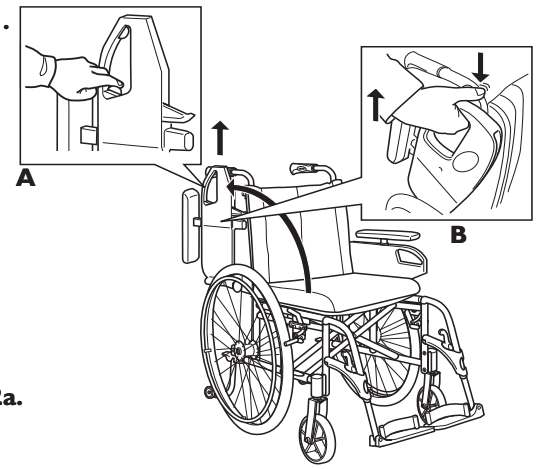
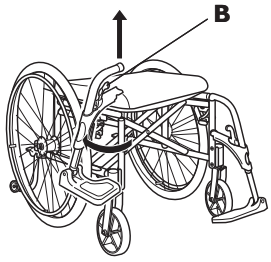
How to disassemble your Spirea³ to transport it as luggage

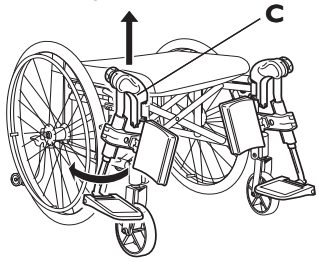
1.



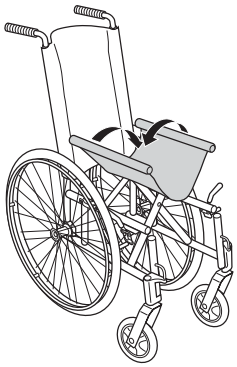
2a.



2b.



3.



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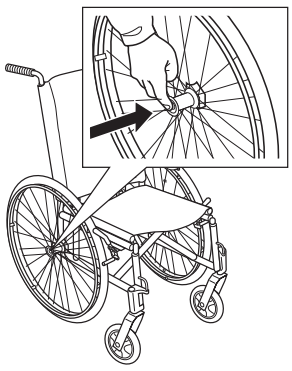

1. Start by removing the armrests.

Flip up armrests

Press the button (A), swing up the armrest. Lift it straight up (you may need to hold it slightly forward then lift it straight up) (B).

Detachable armrests

When having detachable one´s, just lift them up

2a. Remove the footrests by pressing the level (B), whilst turning the footrests outwards or inwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and footrest.

2b. Remove the legrests by pressing the level (C) backwards, whilst turning the legrests outwards and pull them straight up.

⚠ Be careful not to trap your fingers between frame and legrest.

Concerning the brake

The lever of the brake where the handle is located, have a free play. The lever folds up automatically when the legrest have been swinged to its outward position without activating the brake. To activate the brake just press respectively pull at its most forward respectively rear located position.

3. Push the seat down into a ”U” shape. Take hold of the sides of the seat and fold the chair completely.

If you have a backrest bar release it first by pressing on the small nob on the inside of the tube. It will automaticlly fall down to the side.

4. Remove the rearwheels by pressing the buttom in the centre of the hub whilst pulling the wheel away from the wheelchair. Finally, fold the anti-tip devices upwards (see page 23).

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST (ISO-7176-19)

Test no:	P601713B	
Customer:	Invacare Rea AB	
Date:	2003-09-19	
Test no:	F403233	Customer: Invacare Rea AB
Date:	26-04-2006	
Pulse specification	ISO-7176-19	
Wheelchair	Manufacturer:	Invacare Rea AB
	Model:	Rea® Spirea3
	Weight:	18 kg
	Configuration:	Forward facing
Safety restraint device	Manufacturer:	Unwin Safety Systems
	Model:	4 Pt WWR/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	3 Pt WWR/HD/ATF/K/R
Test dummy	Hybrid III	
	Weight:	76.5 kg
Test Configuration	Chassie:	45,5/45 cm
	Backrest:	Angle adjustable
	Seat:	Sling seat depth adjustable Velcro adjustable in depth and shape
	Armrests:	Fixed
	Legrests:	90° Alu2003, fixed footplates
	Rear wheels:	24" pneumatic, 0° camber
	Castors:	150 x 27 mm
	Accessoires:	Backrest bar, pelvic belt

The safety restraint devices used in this test must be approved according to ISO-10542. We have chosen to work with Unwin, a well-known quality manufacturer of safety restraint devices for wheelchairs.

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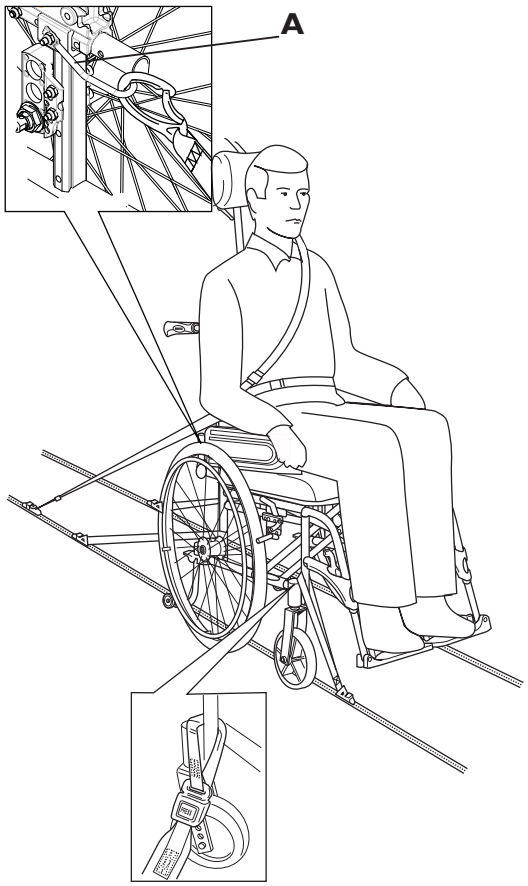

Rea Spirea4NG

A. Front restraints with straps

1. Connect the front straps around the front part of the chair's frame.
2. Release the wheelchair's brakes and tighten the front straps by pulling the chair backwards.
3. Brake the chair.

B. Fastening at the back

1. Attach the snap hooks in the transport bracket by the back rest attachment.
2. Tighten the straps.

C. Fastening the pelvic belt and safety belt

1. Check that the pelvic belt is securely fastened.
2. Fasten the car's safety belt over the user.

Note that the Rea Spirea4 NG should not be used for seated transport in a vehicle if the wheelchair is not equipped with transport brackets (A) and does not have a neckrest fitted

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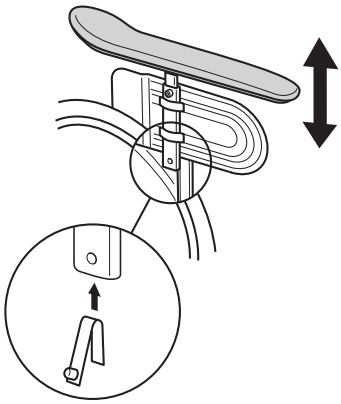
HOW TO DISASSEMBLE YOUR WHEELCHAIR AHEAD OF TRANSPORT AS LUGGAGE.

When you want to transport the Rea Spirea4 NG, you can easily remove certain parts to make the chair smaller and lighter.

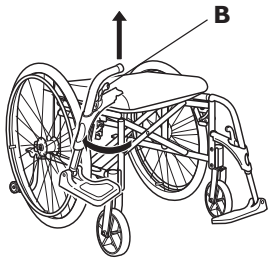
1.



1. Start by removing the arm rests.

Press in the button on the spring to loosen the arm rest and then lift it straight up.

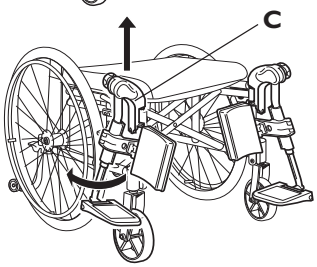
2a.



2a. Release the foot rests by moving the lever (B) forward or towards the sides while angling the rests outwards. You can then easily lift off the foot rests.

⚠ Be careful not to trap your fingers between the frame and the foot rest.

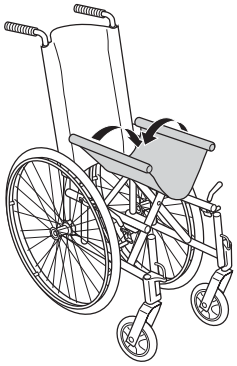
2b.



2b. Loosen the leg rests by pressing in the lever (C) and turning the leg rests outwards. You can then easily lift off the leg rests.

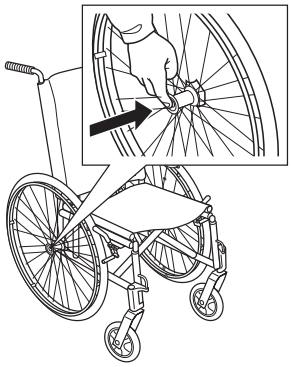
⚠ Be careful not to trap your fingers between the frame and the leg rest.

3.



3. Press the seat into a U shape. Take hold of both sides of the seat frame and fully collapse the wheelchair. If you have a back rest bar, remove it first by pressing in the catch on the inside of the left bracket and then folding the bar down.

4.



4. Remove the drive wheels by pressing the button in the centre of the wheel while pulling the wheel away from the wheelchair. Finally, fold the anti-tip devices upwards.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST (ISO-7176-19)

Test no:	PX02078A, PX03117B, PX03117D	
Customer:	Invacare Rea AB	
Date:	2010-03-17, 2010-06-14	
Pulse specification	ISO-7176-19:2008	
Wheelchair	Manufacturer:	Invacare Rea AB
	Model:	Rea® Spirea4 NG
	Weight:	20,5, 21,4 kg
	Configuration:	Forward facing
Safety restraint device	Manufacturer:	Unwin Safety Systems
	Model:	4 Pt WWR/ATF/K/R
	Attachment device:	Unwin Low Profile Rail
User safety belt:	Manufacturer:	Unwin Safety Systems
	Model:	3 Pt WWR/HD/ATF/K/R
Test dummy	Hybrid III	
	Weight:	79,2 kg
Test Configuration	Chassie:	43, 45,5 cm
	Backrest:	Angle adjustable
	Seat:	Sling seat depth adjustable Velcro adjustable in depth and shape
	Armrests:	Rio short
	Legrests:	AF 80°
	Rear wheels:	24", 16”
	Castors:	150 x 29 mm
	Accessoires:	Neckrest, anti-tp device. pelvic belt

The safety restraint devices used in this test must be approved according to ISO-10542. We have chosen to work with Unwin, a well-known quality manufacturer of safety restraint devices for wheelchairs.

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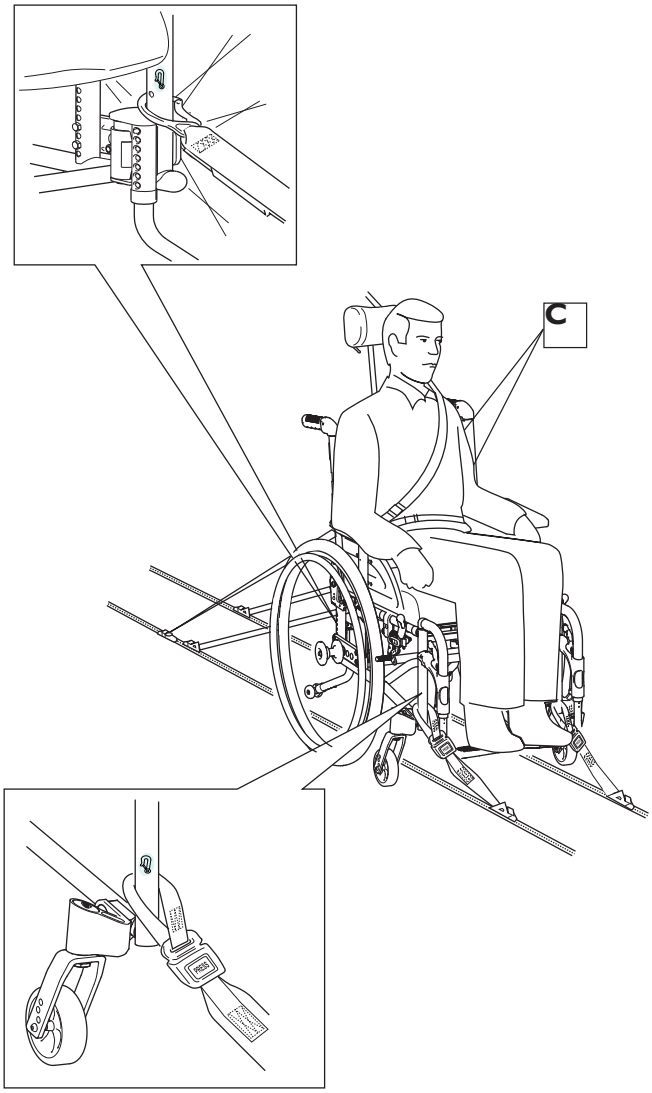
Invacare® XLT®

RESTRAINT METHODS



A. Front restraints with straps

1. Connect the front straps around the front tube of the frame, just above the castor housing, see picture A.
2. Release brakes and tension front straps by pulling the wheelchair backwards.
3. Re-apply wheelchair brakes.

B. Rear restraints

1. Attach the snap hooks of the rear straps around the rear tube of the frame, just above the rear wheel attachment, see picture B.
2. Tighten the straps.

C. Pelvic belt and 3-point safety belt

1. Check that the pelvic belt is correctly attached to the wheelchair, adjust the length and fasten it around the user.
2. Fasten the 3-point safety belt around the user.

We would like to point out that there is always a risk involved in being transported seated in your wheelchair. The risk for injury during an incident increases when you have a wheelchair with a low backrest. The lower the back, the higher the risk for injury. Therefore, Invacare strongly advise against the use of XLT as a seat in a vehicle if the backrest is lower than **40 cm.**.

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TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test No: P802083C
Customer: Invacare® Rea™ AB

Date: 27/03/2008

Pulse specification:
ISO 7176-19 / ISO-10542

Wheelchair:
Manufacturer:
Invacare® Rea™ AB
Model:
Invacare® XLT Swing
Configuration:
Forward facing

Safety restraint device:
Manufacturer:
Unwin Safety Systems
Model:
UN 120-3
Attachment device:
Unwin Low Profile Rail
Configuration:
4 Pt. Restraint

User safety belt:
Manufacturer: Unwin Safety Systems
Model: UN 120-3

Testdummy:
Hybrid III
Weight: 76 kg

Test configuration:
Chassis:
SW43 / SD45 - Swing
Weight:
20.2 kg
Backrest:
Tension- and height adjustable, foldable
Seat:
Standard seat cushion.
Tension- and depth adjustable
Armrest:
Height adjustable, removable
Legrest:
Fixed 80° Alu2003
Rear wheel:
24" pneumatic
Castor:
125x27 mm
Accessories:
Neckrest, pelvic belt and anti-tip device

TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test no: P803427C
Customer: Invacare® Rea™ AB

Date: 10/06/2008

Pulse specification:
ISO 7176-19 / ISO 10542-1

Wheelchair:
Manufacturer:
Invacare® Rea™ AB
Model:
Invacare® XLT Active
Configuration:
Forward facing

Safety restraint device:
Manufacturer:
Unwin Safety Systems
Model:
UN 120-3
Attachment device:
Unwin Low Profile Rail
Configuration:
4 Pt. Restraint

User safety belt:
Manufacturer:
Unwin Safety Systems
Model:UN 120-3

Testdummy:
Hybrid III
Weight: 76.5 kg

Test configuration:
Chassis:
SW43 / SD45 - 75°
Weight:
16.8 kg
Backrest:
Tension- and height adjustable, foldable
Seat:
Standard seat cushion.
Tension- and depth adjustable
Armrest:
Height adjustable, removable
Legrest:
Fixed 80° Alu2003
Rear wheel:
24" pneumatic
Castor:
125x27 mm
Accessories:
Neckrest, pelvic belt and anti-tip device

TEST REPORT FROM DYNAMIC SAFETY RESTRAINT TEST

Test no: P803427D
Customer: Invacare® Rea™ AB

Date:10/06/2008

Pulse specification:
ISO 7176-19 / ISO 10542-1

Wheelchair:
Manufacturer:
Invacare® Rea™ AB
Model:
Invacare® XLT Dynamic
Configuration:
Forward facing

Safety restraint device:
Manufacturer:
Unwin Safety Systems
Model:
UN 120-3
Attachment device:
Unwin Low Profile Rail
Configuration
4 Pt. Restraint

User safety belt:
Manufacturer:Unwin Safety Systems
Model:UN 120-3

Testdummy:
Hybrid III
Weight:76.5 kg

Test configuration:
Chassis:
SW43 / SD45 - 90°
Weight:
16.9 kg
Backrest:
Tension- and height adjustable, foldable
Seat:
Standard seat cushion.
Tension- and depth adjustable
Armrest:
Height adjustable, removable
Legrest:
Fixed 80° Alu2003
Rear wheel:
24" pneumatic
Castor:
125x27 mm
Accessories:
Neckrest, pelvic belt and anti-tip device

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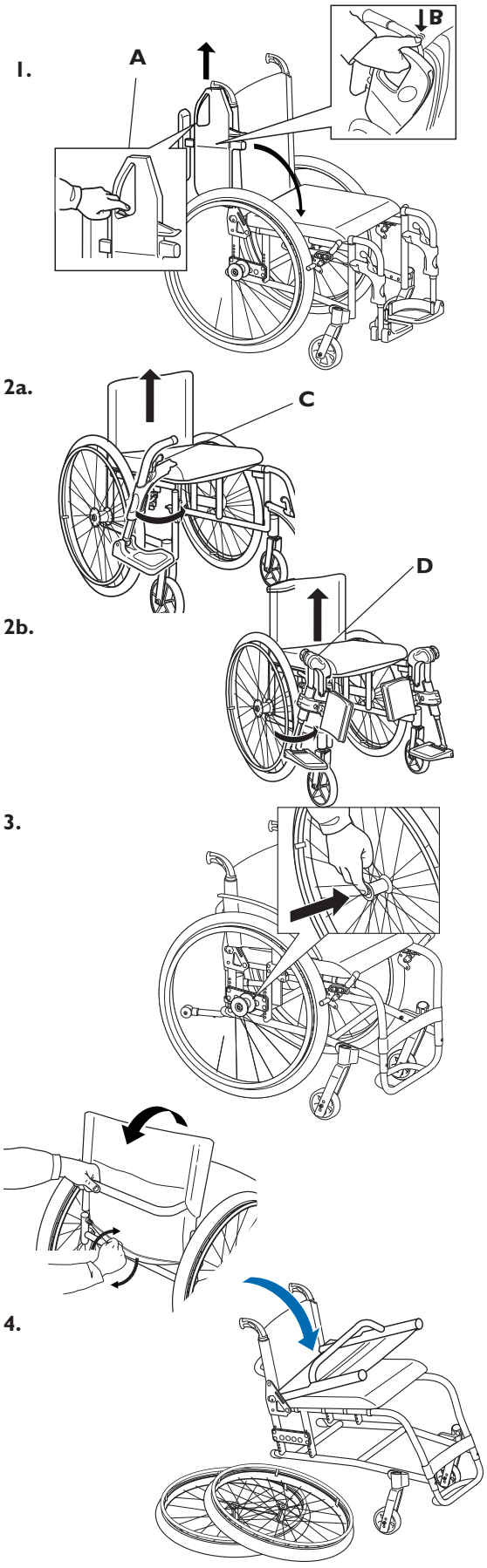
How to disassemble your XLT to transport it as luggage



Your XLT is easy to transport, many parts are removable to make the chair smaller and lighter.

1. Start by removing the armrests.

Flip up armrests
Press the button (A), swing the armrest up. Lift it straight up. You may need to hold it slightly forward, then lift it straight up (B).

Detachable armrests
When you have detachable armrests, just lift them up.

2a. Remove the swing away legrests by pressing the lever (C), whilst turning the footrests outwards or inwards and pull them straight up.

2b. Remove the adjustable legrests by pressing the level (D) backwards, whilst turning the legrests outwards and pull them straight up.

⚠ Be careful that you do not trap your fingers between frame and legrest.

3. Remove the rear wheels by pressing the button in the centre of the hub at the same time as you pull the wheel away from the wheelchair. The procedure is the same when you replace the wheel: press the button and put the wheel back in place.

⚠ It is very important that you check that the locking pin has actually locked the wheel into position when the centre button has been released. Take hold of the wheels and try to detach them. This should NOT be possible.

4. Folding the chair
After removing the wheels, flip down the backrest by grabbing the wire at the lower back of the backrest and twisting it to release the backrest locking.

⚠ Be careful that you do not trap your fingers when you fold the backrest forward onto the seat.

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Yes, you can.®

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